The Physics Teacher

Other brief WebSights roundup items — BICEP2 claims abandoned

Dan MacIsaac

Citation: The Physics Teacher **53**, 253 (2015); doi: 10.1119/1.4914581
View online: http://dx.doi.org/10.1119/1.4914581
View Table of Contents: http://scitation.aip.org/content/aapt/journal/tpt/53/4?ver=pdfcov
Published by the American Association of Physics Teachers

Articles you may be interested in

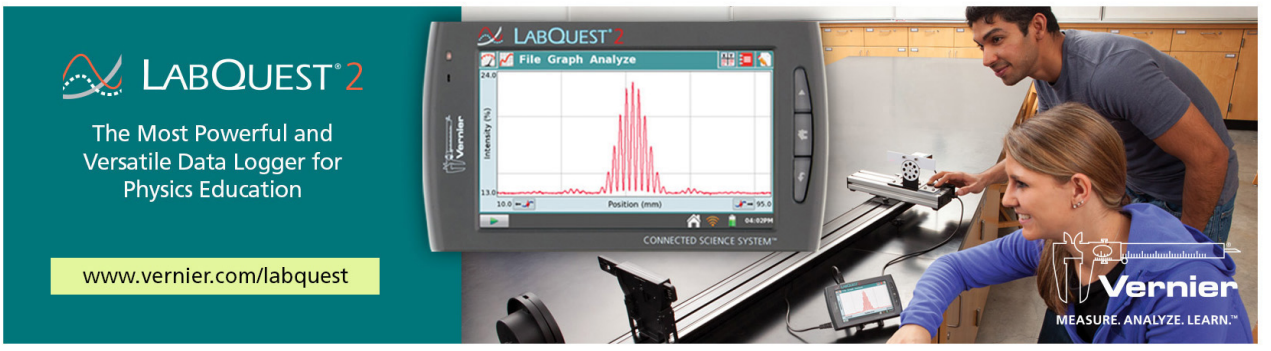
WebSights
Phys. Teach. **45**, 526 (2007); 10.1119/1.2798376

WebSights
Phys. Teach. **45**, 526 (2007); 10.1119/1.2798375

WebSights
Phys. Teach. **45**, 526 (2007); 10.1119/1.2798374

WebSights
Phys. Teach. **45**, 526 (2007); 10.1119/1.2798373

WebSights
Phys. Teach. **45**, 188 (2007); 10.1119/1.2709684



This article is copyrighted as indicated in the article. Reuse of AAPT content is subject to the terms at: http://scitation.aip.org/termsconditions. Downloaded to IP: 128.255.6.125 On: Tue, 11 Aug 2015 05:06:12

Dan MacIsaac, Column Editor, Physics Department
SUNY-Buffalo State College, Buffalo, NY 14222; macisadl@buffalostate.edu

WebSights *features announcements and reviews of select sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at PhysicsEd.BuffaloState.Edu/pubs/WebSights/. If you have successfully used a physics website that you feel is outstanding and appropriate for* WebSights, *please email me the URL and describe how you use it to teach or learn physics—macisadl@buffalostate.edu.*

• *Perimeter Institute posters: Great physics teachers and STEM figures who made their mark*

https://perimeterinstitute.ca/store/free-poster/free-posters

I have been itching to get my hands on a truly inspirational poster for my classroom, and PI has recently made two available through a mildly extended process (you must go through the store, add to cart, checkout, receive an email, register an account, then login and download posters and print locally). The first poster, "A Great Teacher Can Change The World," includes pictures and thank you quotes from Einstein, Feynman, Hawking, Gates, Turok, Bell, Jackson and Arkani-Hamed on the roles that their (mainly grade school) teachers played in inspiring their physics careers. The second poster, "They Made Their Mark," collects a set of 54 logo-like visual puns using names of famous mathematicians, physicists, and astronomers. Also check out the PI Outreach opportunities for students and teachers, as well as freely viewable multimedia resources and curricular materials for teaching modern physics.

DOI: 10.1119/1.4914577

• *How do mirrors work revisited*

https://www.youtube.com/watch?v=vBpxhfBlVLU
https://www.youtube.com/watch?v=msN87y-iEx0

The classic chestnut "How do mirrors know how to reverse left to right but not top to bottom?" is reexamined in a worthwhile set of well-thought-out video demonstrations with props by Physics Girl. The classic discussion of this problem is from Feynman's discourse in the BBC series "Fun To Imagine," but Physics Girl uses media masterfully to address the problem. As a colleague recently told me: "Best job on mirror reflections that I have seen. The fact that she is a girl like many of your students is also a good thing!"

Submitted by David Henry of Buffalo State

DOI: 10.1119/1.4914578

• *Deliberate and thoughtful climate engineering: Coming soon to a planet near you*

http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=02102015

Given our heavy (seven billion strong) footprint on the planet and the "controversy" associated with the political realities of being human, it has actually been a pleasure to see the National Academies Press moving from titles reporting on climate indicators and impacts to titles discussing thoughtful climate intervention with intent. NAP has announced prepublication editions (full text is now freely downloadable with free registration) of two new works: "Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration" and "Climate Intervention: Reflecting Sunlight to Cool Earth." Risks and governance associated with albedo modification are especially poorly understood and require research, but carbon dioxide removal seems much less risky (Who argues with reforestation? But ocean iron fertilization?). Neither approach replaces reducing CO_2 emissions, and social context is critical to the entire enterprise—we've been damaging our planetary climate in thoughtless and unintentional ways much too long.

DOI: 10.1119/1.4914579

• *Report: AAPT Recommendations for the Undergraduate Physics Laboratory Curriculum*

http://www.aapt.org/Resources/, under Guidelines

The report focuses on the areas of constructing knowledge, modeling, designing experiments, technical and practical lab skills, analyzing and visualizing data, and communicating physics (with a really cool color addition graphic). Sixteen pages of tables provide a rich collection of learning outcomes for each area separately for both the introductory and advanced labs. The updated guidelines were clearly influenced by earlier reports, modeling physics, the work of Etkina, Hofstein, and Lunetta, the 1995 ISO GUM standards, and the AIP conference on advanced labs. This report is especially well worth reading if you are called upon to write learning outcomes for physics labs.

DOI: 10.1119/1.4914580

• *Other brief WebSights roundup items – BICEP2 claims abandoned*

http://physicsworld.com/cws/article/news/2014/sep/22/bicep2-gravitational-wave-result-bites-the-dust-thanks-to-new-planck-data

BICEP2 astronomical scientists abandon their direct cosmic inflation observation claim from microwave polarization data. A nice example of how modern peer-reviewed science works.

DOI: 10.1119/1.4914581

– McGyver physics tricks

https://www.youtube.com/watch?v=_LAunryCu9c

Grant Thompson's **King of Random** YouTube channel Quick Clips show McGyver-like physics tricks using everyday items. I was first shown "QC#56 - Gum Wrapper Fire Starter," a nice improvised fuse and 1.5-V battery demonstration, which I will use in my next E&M class. This channel has many old favorite physics tricks (the Al foil match rockets published years back in *AJP*), as well as an extensive catalogue of homemade pyrotechnic demonstration suggestions for meeting employees from your local fire department, law enforcement, and homeland security agencies. I appreciated the "sugar rockets" video, and believe physics and chemistry teachers should know what not to do, and routes their students can take into trouble. This site is quite instructive for that.

Thanks to Kathleen Falconer for the QC YouTube suggestion.

DOI: 10.1119/1.4914582

This article is copyrighted as indicated in the article. Reuse of AAPT content is subject to the terms at: http://scitation.aip.org/termsconditions. Downloaded to IP: 128.255.6.125 On: Tue, 11 Aug 2015 05:06:12